defined to be larger than zero. This requires that a new functionality is added to the PDCP layer to monitor the number of data connections of each radio bearer. If the number of data connections on a radio bearer corresponds to the maximum value of the context identifier length, and a new data connection is being established, PDCP informs RRC as described above. It is also possible that due to the limited properties of the terminal, for instance, the number of simultaneous data connections is through RRC signalling set to four data flows, for instance It is then necessary that the PDCP layer can monitor the number of simultaneous data connections as described above, because the ROHC mechanisms do not affect a situation in which the highest number of simultaneous data connections is smaller than the maximum value of the context identifier field.

[0048] The first and second embodiment described above can, according to a preferred embodiment, be used by means of the PDCP layer in such a manner that the PDCP layer monitors according to said second embodiment the number of data connections on a radio bearer and when necessary defines according to said first embodiment that header field compression is not performed to the extra data connections exceeding the number of data connections allowed by the maximum context identifier value. This ensures that at least the original data flows can be transmitted optimally compressed In such a case, if the length of the context identifier of the radio bearer is defined at zero, for instance, and the PDCP layer detects 17 simultaneous data flows, said last (17^{th}) flow is transmitted without header field compression, and said functionality of the PDCP layer directs the new data flow past the compressor. According to a preferred embodiment, said functionality of the PDCP layer can also select the data flows which are compressed, in which case the data flow being directed past the compressor is not automatically the data flow formed last

[0049] According to a third embodiment, the UMTS entity (e.g. session management protocol SM) which, when a data connection is being established, decides, to which radio bearer the new data flows belong, is, when the data connection is being established, informed of the limitations caused by the maximum value of the context identifier to the number of simultaneous data connections, especially when the length of the radio bearer context identifier is set at zero. If 16 data flows are then in use and a need for 17 or more simultaneous data flows is detected, a new "extra" data flow can

be defined its own radio bearer or the first radio bearer is re-configured and the length of the context identifier field is given a larger value than zero. In both cases, the header fields of each data flow can be compressed according to ROHC. In this embodiment, too, one must especially take into consideration a situation, in which, due to the limited properties of the terminal, the highest number of simultaneous data connections is only four data flows, for instance. In such a case, it is necessary that the entity controlling the establishment of the data connection is able to monitor the number of simultaneous data connections as described above.

[0050] According to a fourth embodiment, packet identifiers (PID) in the data packet structure of the PDCP layer are used to indicate the changes needed in the length of the context identifier. On the PDCP layer, the different compression methods are indicated and distinguished from each other by means of packet identifiers PID attached to the data packets PDU. For each PDCP entity, a table is created for the values of the packet identifier PID, in which different compression algorithms are matched with different data packets, and the value of the packet identifier PID is determined as a combination of these. If no compression algorithm is used, the packet identifier PID obtains the value zero. PID values are consecutively defined for each compression algorithm and its combination with different data packet types in such a manner that the PID values of each compression algorithm start from n+1, wherein n is the last PID value defined for the previous compression algorithm. The order of compression algorithms is determined in negotiation with the radio resource controller RRC. On the basis of the PID value table, the PDCP entities at both ends of the packet data connection can identify the compression algorithms of data packets being sent and received.

[0051] These PID values can, in this embodiment of the invention, be utilised in such a manner that three PID values are allocated for different context identifier field values (0, 1 or 2 bytes) of ROHC according to the table shown in Figure 6. Alternatively, two PID values can be allocated to represent the CID space values "small" (0 bytes) and "large" (1 or 2 bytes). Then with a "large" CID space value, the CID field extension bits can be used to indicate in more detail whether this concerns an 8- or 16-bit CID field. Now, if the context identifier length of the radio bearer is set at zero and the PDCP layer detects 17 simultaneous data flows, a change in the CID field length can be indicated to the receiving PDCP entity by means of these PID values. The PID values

are preferably transmitted until the radio bearer is re-configured or the number of data connections goes back to 16.

[0052] According to a fifth embodiment, the length of the CID field is not re-defined, even though the maximum value of the CID space was exceeded, but a separate RLC connection can be established for different data connections. This can be implemented in such a manner that when the maximum value of the CID space is exceeded, each new data connection gets a separate RLC connection whose CID field length is preferably zero. Alternatively, a separate RLC connection, whose CID field length is set to zero, can be defined for each data flow. Further, the data flows can be distributed to two RLC connections in a situation where 32 data flows are in use, in which case the data flows can be distributed to two RLC connections whose CID field lengths can preferably be kept at zero. Then the PDCP layer specifications should be modified to allow one PDCP entity to use several RLC connections simultaneously. For the utilisation of radio resources, this embodiment is optimal, because each simultaneous data flow can be transmitted without a CID field (CID length = 0), in which case the payload proportion of the transmitted data can be maximized.

[0053] According to a sixth embodiment, simultaneous data connections exceeding the defined maximum value of the context identifier are not accepted for transmission. If the context identifier length of the radio bearer has been set to zero, for instance, and there are 16 data flows in use, and an attempt is made to form a 17^{th} simultaneous data flow, the PDCP layer and/or compressor will not accept said 17^{th} data connection for establishment, and its data packets will be rejected.

[0054] This way, the procedure of the invention ensures that in all situations it is possible to compress at least as many data connections transmitted on the radio bearer as allowed by the maximum length of the context identifier field defined for the radio bearer. Further, the discontinuation of the compression of data connections which are transmitted compressed is avoided by means of the procedure of the invention. The procedure of the invention enables applying header field compression to data connections in the most efficient manner possible, which is advantageous for an efficient utilisation of radio resources.

[0055] The procedure of the invention is above described using the UMTS system as an example. Header field compression according to ROHC